Zulqaida, Salma, 2016, Eksplorasi Metode Sintesis Turunan Dihidropirimidinon Menggunakan Modifikasi Reaksi Biginelli. Skripsi dibawah bimbingan Dr. Hery Suwito, M. Si. dan Dr. Alfinda Novi Kristanti, DEA, Departemen Kimia, Fakultas Sains dan Teknologi, Universitas Airlangga.

ABSTRAK

Senyawa turunan dihidropirimidinon merupakan senyawa yang sangat menarik untuk disintesis karena memiliki berbagai aktivitas biologis, seperti antibakteri, antitumor dan antiinflamasi. Eksplorasi terus dilakukan untuk memperoleh metode sintesis yang paling efisien bagi senyawa ini. Pada penelitian ini telah dilakukan sintesis senyawa turunan dihidropirimidinon yaitu etil 4-(4-hidroksi-3-metoksifenil)-6-metil-2-okso-1,2,3,4-tetrahidropirimidin-5-karboksilat melalui reaksi Biginelli termodifikasi. Adapun karakterisasi molekul target dilakukan dengan menggunakan FT-IR dan ^{1}H dan ^{13}C NMR. Rendemen terbaik, sebesar 61,2% dihasilkan dari metode refluks dengan katalis pTSA. Sementara rendemen yang dihasilkan metode sintesis organik yang dibantu *microwave* (*microwave assisted organic synthesis*) dan metode refluks dengan katalis *ionic liquid* berturut-turut sebesar 30,46% dan 22,61%. Meskipun memiliki rendemen yang belum memuaskan, sintesis organik yang dibantu *microwave* menjadi suatu metode yang menjanjikan untuk dieksplorasi lebih lanjut karena metodenya yang sederhana, waktu reaksinya yang singkat dan dilakukan dalam kondisi tanpa pelarut.

Kata kunci: *Dihidropirimidinon, Reaksi Biginelli, Microwave Assisted Organic Synthesis, Ionic Liquid*

Zulqaida, Salma, 2016, Method Exploration of Dihydropirimidinone Derivative Synthesis Using Biginelli Reaction Modification. The script was under guidance of Dr. Hery Suwito, M. Si. and Dr. Alfinda Novi Kristanti, DEA, Department of Chemistry, Faculty of Science and Technology, Airlangga University.

ABSTRACT

Dihydropirimidinone derivatives are interesting compound to be synthesized because of its biological activities, such as antibacterial, antitumor, and antiinflammatory. Exploration is still continued to obtain the most efficient method for the synthesis of these compounds. In this research, synthesis of dihydropirimidinon derivative namely ethyl 4-(4-hydroxy-3-methxyphenyl)-6-methyl-2-oxo-1,2,3,4-tetrahydropyrimidin-5-carboxylate by modified Biginelli reaction is has been done. The characterization of target molecules was performed using FT-IR and ^{1}H and ^{13}C NMR. The best yield, 61,2%, was resulted from the reflux method with pTSA as catalyst, while microwave assisted organic synthesis method and reflux method with pTSA as catalyst was giving 30,46% and 22,61% yield, respectively. Altough it didn't give a satisfactory yield, microwave assisted organic synthesis becomes a promising method for further exploration because of its simple method, short reaction time dan carried out in solventless condition.

***Keywords**: Dihydropirimidinone, Biginelli Reaction, Microwave Assisted Organic Synthesis, Ionic Liquid*